



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/GB91/01599  <b>(22) International Filing Date:</b> 18 September 1991 (18.09.91)  <b>(30) Priority data:</b> 9021253.1                      29 September 1990 (29.09.90) GB  <b>(71) Applicant (for all designated States except US):</b> METROL TECHNOLOGY LIMITED [GB/GB]; 1 Whitemyres Avenue, Mastrick, Aberdeen AB2 6HQ (GB).  <b>(72) Inventor; and</b> <b>(75) Inventor/Applicant (for US only) :</b> SMITH, David, Balfour [GB/GB]; East Neuk, Netherley, Stonehaven, Kincardineshire AB3 2NQ (GB).  <b>(74) Agent:</b> PATTULLO, Norman; Murgitroyd and Company, Mitchell House, 333 Bath Street, Glasgow G2 4ER (GB).		<b>(81) Designated States:</b> AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BJ (OAPI patent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH (European patent), CI (OAPI patent), CM (OAPI patent), CS, DE (European patent), DK (European patent), ES (European patent), FI, FR (European patent), GA (OAPI patent), GB, GB (European patent), GN (OAPI patent), GR (European patent), HU, IT (European patent), JP, KP, KR, LK, LU (European patent), MC, MG, ML (OAPI patent), MR (OAPI patent), MW, NL (European patent), NO, PL, RO, SD, SE (European patent), SN (OAPI patent), SU <sup>+</sup> , TD (OAPI patent), TG (OAPI patent), US.  <b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> TRANSMISSION OF DATA IN BOREHOLES  <b>(57) Abstract</b>  Data is transmitted along a borehole containing a drill stem (2) by means of a transmitter (6) which converts electric data signals to acoustic signals propagating along the drill stem (2). The acoustic signals are converted back to electric form by a receiver (12) which also processes the signals. In the preferred form the signals are stored in a receiver memory (15) for subsequent retrieval using a pick-up tool (5) lowered into the borehole. The system is particularly useful in moving data past an obstruction such as a shut-in valve (4).		

